

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A spread spectrum communications system, comprising:
 - (A) a transmitter, said transmitter further comprising:
 - (1) a data source;
 - (2) a first multiplier/mixer spreading data from said data source with a first pseudo noise source;
 - (3) a second multiplier/mixer spreading data from said first mixer with a second pseudo noise source;
 - (4) an RF transmitter;
 - (B) a receiver, said receiver further comprising:
 - (1) an RF receiver;
 - (2) a first matched filter receiving data from said RF receiver;
 - (3) a plurality of phase/frequency shifters, receiving a signal from said first matched filter;
 - (4) a plurality of second matched filters receiving data from said plurality of phase/frequency shifters; and
 - (5) an equalizer/decoder receiving signals from said plurality of phase/frequency shifters.

2. (Original) A spread spectrum communications system, as recited in claim 1, wherein said first pseudo noise source provides a variable length code sequence.
3. (Original) A spread spectrum communications system, as recited in claim 1, wherein said second pseudo noise source provides a fixed length code sequence.
4. (Currently Amended) A spread spectrum communications system, as recited in claim 1, wherein said first ~~multiplexer~~ multiplier mixer spreads said data from said data source with a variable PN code.
5. (Currently Amended) A spread spectrum communications system, as recited in claim 1, wherein said second ~~multiplexer~~ multiplier mixer spreads said data from said first mixer with a fixed length PN code.
6. (Original) A spread spectrum communications system, as recited in claim 1, wherein said first matched filter further comprises a set of coefficients correlated to said second pseudo noise source.
7. (Currently Amended) A spread spectrum communications system, as recited in claim 1, wherein said plurality of phase/frequency shifters are offset from each other by one or more degrees/Hz.
8. (Original) A spread spectrum communications system, as recited in claim 1, wherein said second matched filters are correlated to said first pseudo noise source.
9. (Original) A spread spectrum communications system, as recited in claim 1, wherein said first and said second pseudo noise sources may be scaled to longer or shorter fixed or variable

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code lengths to optimize variables such as connection quality, system complexity, overall implementation cost and service "classes" of devices.

10. (Original) A spread spectrum communications system, as recited in claim 1, wherein said equalizer/decoder selects an advantageous set of signals from said received signals from said plurality of phase/frequency shifters.